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HEALTH

A WEEKLY JOURNAL OF

DOMESTIC AND SANITARY SCIENCE.

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EDITED BY DR. ANDREW WILSON, F.R.S.E. &c.

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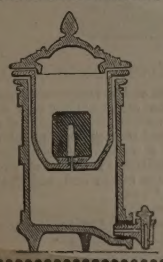

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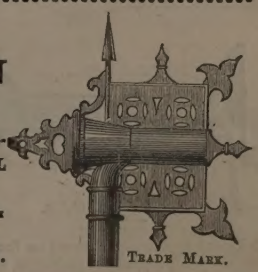
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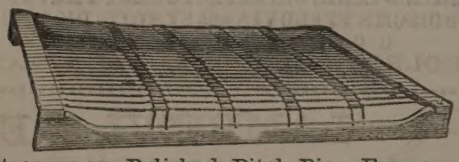

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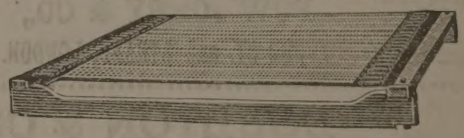

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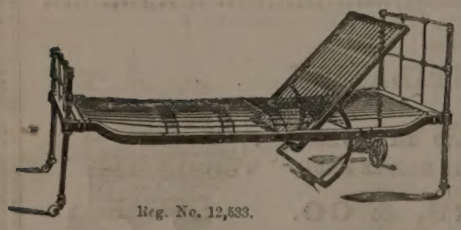

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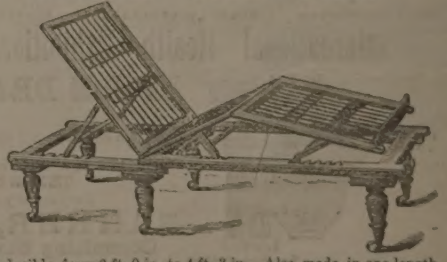

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• HEALTH •

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, JULY* 17, 1885.

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Notes by the Way

BY THE EDITOR.

"Health is the foundation of all our physical happiness."—*Herder.*

THE question of dairies and disease is an old and well-worn theme in sanitary science. Typhoid-fever has over and over again been distributed broadcast from a particular dairy, as from a centre of infection. Milk, of all fluids, is, perhaps, the most liable to harbour germs of disease when it has been exposed to chances of contamination; and cases of fever, occurring on dairy-premises, have been followed by the dissemination of the particular ailment among the customers of the dairy; and have, moreover, been limited, in many instances, to the patrons of that dairy alone—a fact proving the source of the disease to the full satisfaction of sanitarians.

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THE only safety of the public in this matter of milk-supply is the spontaneous desire of the dairyman to keep his dwelling-place—business-premises and house-premises also—scrupulously clean; to ensure against risks of infection of the water-supply of his dairy; and to verify at the hands of the veterinary surgeon the health of his cows. In a well-arranged dairy, all these points are rigidly attended to; and as a bright example of the scientific supervision of the milk-depôt (in the interests of the public health and safety), I may unhesitatingly point to the establishments of Messrs. Welford & Sons, of London, whose dairies have been described in a previous number of this journal.

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I HAVE been lead to recur to this subject by the announcement—noticed elsewhere in the present number of HEALTH—that the Scotch Board of Supervision has issued an Order relative to the conduct of dairies north of the Tweed. The terms of the Order are simply those which have long been insisted upon in these pages as necessary for the protection of the public against disease. Thus all dairies, or places whence milk is purveyed, or in which cows are kept, are to be registered; the sanitary surroundings of the dairy are to be satisfactory; and the cleanliness, air-space, ventilation, drainage, &c., are all to be certified as suitable. Again, no person suffering from a "dangerous infectious disorder," or having been recently in contact with a patient so affected, is to be allowed to milk cows or to take part in the business of the dairy.

EQUALLY important are the provisions of the Order, which forbid the dairy itself being used as a sleeping apartment, and the localisation of swine in any building used for keeping cows or for dairy purposes. The milk of a diseased cow is not to be mixed with other milk, or used for human food; and such milk is not to be employed as food for swine or other animals until it has been boiled. It is in the carrying out of the latter provisions that the visits of the veterinary surgeon become of value to the dairyman and public alike. I apprehend a marked decrease of disease arising from infected milk will follow the careful observance of the provisions of this highly necessary law.

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THE artificial incubation of chickens is, of course, a well-known practice, but it may interest my readers to know that an analogous apparatus to that used for the above purpose is in actual use in Paris for the upbringing of delicate infants, who require a special and regulated temperature as a condition of their survival. The invention in question is that of Dr. Tarnier, of Paris, and his "baby-brooder" or *couveuse* is an accomplished fact, seeing that since November, 1881, it has been in constant and successful use in the Maternity Hospital of the city just named.

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ACCORDING to the account of Dr. Hector George, in *La Génie Civil*, these "couveuses" are large boxes of wood, with double walls, resting on a pedestal. They are divided into two compartments, the lower containing warm water, and the upper the bed of the infant. The upper compartment is covered by two plates of glass, which are movable, through which may be seen the condition of the infant and the temperature indicated by a thermometer placed within. A sufficient number of openings are made to give communication with the external air, which enters from below, passes over the warm-water heating-surface, and then into the upper compartment, from which it escapes. The infant is thus placed in a warm-air bath, the temperatare of which is maintained constantly at 30° Centigrade [or 86° Fahrenheit]. The greatest difficulty is to maintain this constant temperature. The heat is supplied by a special lamp.

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THE results obtained by the employment of the couveuse are worthy of attention. From November, 1881, to July, 1883, there were treated by this method 151 infants, of whom 91 had been prematurely born, and the others very feeble. A healthy infant born at full time weighs about 3,500 grammes, a gramme being nearly 16 grains. Those infants which at birth weigh less than 2,000 grammes are considered as very feeble: that is, it is more probable that they will die than that they will live. Statistics show for such infants a mortality of about 65 per cent. With the couveuse, out of the 92 infants prematurely born, 31 died and 61 lived. The time which an infant is kept in the couveuse varies from one day to six weeks, according to its condition. One infant born nearly three months before full development was kept 40 days in the couveuse, and lived.

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AMONG features of insurance enterprise which are of novel character, I think the aims and objects of "The Health Insurance Association, Limited," deserve special mention in a journal devoted to the interests and extension of sanitary knowledge. It is the aim of HEALTH, on the one hand, to instruct the public in the laws which govern our physical happiness, as represented in healthy bodies; it is, conversely, the object of "The Health Insurance Association" to provide for the contingencies, often of serious nature to many, which arise from the loss of time and money which illness entails. Thus the company in ques-

tion has been promoted to provide, during illness or infirmity, grants of money which will be of service to thousands in tiding over the inevitable distress, and additional expense incurred on the part of the insured for the support of the home during the sickness of its head. Grants of money are made by this Association to the insured on terms of most favourable kind, and we cordially invite our readers to write for prospectuses of what appears to be a scheme thoroughly deserving of support, likely to be useful to thousands, and trustworthy in the highest degree, both from a financial and from other points of view.

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THE policies of "The Health Insurance Association" are issued for five years, ten years, and for longer periods. A quarterly payment of 6s. 11d. will thus entitle a man who is unable to follow his employment for two weeks or longer to a weekly allowance of £1 per week for a given period; while, if his incapacity should be more prolonged, he may continue to receive a less sum per week until the expiry of his policy. According to the premium paid, the rate of payment may range high or low, as the insurer desires; and the policies, I understand, are made out on a liberal scale which covers all diseases, except, of course, such as are to be regarded as avoidable and preventible in the plainest acceptation of these terms. The Association is conducted on "mutual" principles, and a quinquennial division of profits takes place among the members.

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ONLY males, I presume, will, for the present, be admitted as members. The officials (as may be noted from the Association's advertisement appearing in our pages) are men of the highest standing in their several professions. In directing attention, therefore, to this excellent scheme, I am only aiding the general cause of sanitation by pointing out a means of hastening recovery, when disease actually attacks us, through the mental relief insurers must experience in knowing that they have been able to provide for that "rainy day" of illness, which, when tinctured with the pinch of poverty is, of all gloomy outlooks, perhaps the worst and most hopeless. The Association has its head office at 31, Abchurch-lane, London, E.C.; the Manchester branch being situated at 32, Brown-street.

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AS an evidence of the attention which is being paid to health matters in India, I may mention the fact that a prosperous Health Society exists in Calcutta, and issues a highly interesting journal of its proceedings. The number for May, 1885, lies before me, and contains the full text of a lecture on "Drainage and Preventible Disease in Calcutta," delivered by Mr. T. Jones, a local judge. The spirit of sanitary enterprise manifested in such a fashion is certain to accomplish much good in the prevention of disease and in favouring the chances of long life, even in districts noted for their unhealthy character.

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I OBSERVE that recently, in Glasgow, the parents of a child who was suffering from scarlet fever conveyed the patient in a cab a month after the illness had commenced, and when the process of skin-peeling was still active. This procedure is, of course, an offence equally against sanitary law and ordinary legislation, seeing that the skin-scales are charged with the fever poison, and that persons using the cab after the conveyance of the patient would be liable to infection. The case was the subject of legal inquiry, and a small fine was imposed on the conviction of the offenders. The public, for their own safety, cannot too soon learn the dangers which result from the infringement of the law forbidding the conveyance of infectious cases in public vehicles.

Original Essays

"Life is not to live, but to be well."—*Martial.*

THE POWER OF INHERITANCE.

BY H. PERCY DUNN, F.R.C.S.

THE laws governing inheritance, as Darwin observes, in the "Origin of Species," are, for the most part, unknown. It is impossible to say why the inheritance of family characteristics should be limited by age, sex, or conditions of life; and it is still more difficult to understand why, in some instances, a child, instead of inheriting the peculiarities of its parents, should resemble its uncle or aunt, grandfather or grandmother, or some ancestor even still more remote. It has been well said by La Place that "the surest method we can adopt for our guidance in the search after truth consists in raising phenomena by induction to laws, and laws to facts"; and it is conceivable that the adoption of this principle is admirably adapted for an inquiry which, relatively, is so obscure as the hereditary transmission of structural peculiarities.

Now, comparative facts are found in the animal and vegetable kingdoms which confirm, to a greater or less extent, many details of heredity which obtain in the highest forms of life. A striking instance in this connection may be noted in the matter of consanguineous marriages. In man, the universal belief that intermarriage is inexpedient is founded on fact. The offspring of consanguineous marriages are often deaf-mutes, but even if deaf-mutism be absent, some racial deterioration can nearly always be observed. In animals, the same rule, under, of course, a different aspect, seems to hold good. It is well known that breeds, for instance, of horses and cattle invariably deteriorate by too closely pursuing the system of "breeding in." And, with regard to plants, it is scarcely necessary to observe that cross-fertilisation, upon which, within recent years, much light has been thrown, is a matter of almost vital necessity.

Now, experience shows that heredity is illimitable or permanent when racial or specific types are concerned, and transitory or limited in the case of individual types. As far as man is concerned this is an estimable law. Man does not subject himself to the selection which he applies with so much success to animals and plants, and therefore it is possible, by introducing fresh blood into a family by marriage, to do much towards securing the elimination of an inherited peculiarity. But assuming that all inherited peculiarities tended naturally to become permanent, then marriage in the manner above indicated would avail but little, and deviations from a normal standard of human conformation would be the rule where they are now the exception. The operation of selection can presumably be conducted with the same facility, as far as the results are concerned, in the human subject as in the lower organic kingdoms.

Frederick William of Prussia, for example, was quite successful in obtaining a real race of giants for his guard, by selecting the tallest men of his army, and prohibiting them from marrying except with the tallest women. The pertinacity, so to speak, however, of the hereditariness of certain structural peculiarities unquestionably shows how easy it would be for a race of men to arise differing very largely from the normal human type. The case of Edward Lambert, the porcupine man, is an instance in point. The history of this man shows that all his children, to the number of six, and his two grandchildren, inherited the strange modification of the skin

from which his cognomen was derived; while his wife and daughter-in-law exhibited nothing peculiar in this respect. Again, as showing in a more striking manner the extent to which structural peculiarities may be inherited, the case may be cited of the Colburn family, four generations of whom were marked with many-fingeredness. This occurred in spite of the new blood which each generation introduced by marriage. At the fourth generation four children out of eight still had extra digits. It is curious to remark that all this development was primarily derived from one ancestor—the grandmother of the great calculator.

There are presumably in most families one or more forms of inherited peculiarities, which persist more or less for a time, and then become, it may be, less pronounced, preparatory to disappearing altogether, and the point of interest in these cases is the diverse variety which such peculiarities in different families are found to present. Sometimes there is peculiarity of the structure of a part, sometimes of the function of an organ; and if any similarity subsists between them, it is only in the obscurity of their origin. Curious hereditary details, for example, have been noted in connection with the stomach, and one of the most remarkable and full of interest is that of hereditary rumination. At least three instances occurring in three different families have been recorded of this anomaly. If selection had been resorted to here, a remarkable race of men would have arisen whom physiologists could not fail to have regarded with some amount of sympathetic interest.

Closely connected with hereditary details confined to the stomach are those cases of inherited aversion for particular kinds of diet. Prosper Lucas knew a family of women who persistently ate without drinking, the reason assigned being an inherited intolerance of fluids. Cases, again, have been recorded of inherited aversion for cheese. A family consisting of a man, his wife, and two sons exhibited a peculiarity in this respect to the extent that, whilst the father transmitted a repugnance of cheese to his sons, the mother was exceptional in evincing a decided taste for it. The inability, moreover, to eat certain forms of shell-fish without suffering dyspeptically, is often noticed to occur hereditarily, and the natural aversion for all kinds of animal food observed in some persons is also hereditary in origin. It is easy to comprehend that vegetarianism must come as a boon and a blessing to those to whom such a peculiarity as this has been transmitted; but the consideration of this subject is one of great import, chiefly in its bearing upon the hereditary transmission of morbid types.

To inherit six fingers or six toes does not shorten life, nor does a man die because he cannot eat cheese; and hereditary rumination is by no means incompatible with a healthy existence. The case, however, is different when heredity becomes the medium of reproduction of physical defects, which ultimately encompass a man's destruction. As far as we know, heredity follows the same laws in the transmission of morbid types as it does in those which are not so. But observation shows that there is more variety in the conditions under which it is operative when disease types are concerned. For instance, diseases, curiously enough in some instances, are limited in their appearance to one sex, and, in certain cases, limited in their transmission to the other. It is also unquestionably true that the hereditary intensity, so to speak, of many diseases varies in degree. It is, moreover, the case that the morbid characteristics of each parent seldom become fused, so to speak, in the offspring. The disease type of one or the other parent is either not reproduced, or it is, on the other hand, completely transmitted. By bearing this fact in mind, it is possible to comprehend how a child can inherit the morbid defects of one parent, and yet in almost every other particular resemble the other.

Hereditary disease must, of course, at one time have had a beginning; but the records which have come down to us, far from throwing light on this subject, only suffice to indicate the obscurity with which it is generally surrounded. But, where fact has been wanting, ingenious theories have been advanced to fill the void. There is some ingenuity, it must be admitted, in the suggestion that the primary origin of hereditary disease was owing to the foul vapours which Noah and his kinsmen inhaled during their residence in the ark of old; for it is impossible to believe otherwise than that insuperable sanitary difficulties must have oppressed the spirit of Noah. Even the matter of ventilation alone, especially during the prevalence of the rain, must have taxed his resources to the utmost. However satisfactory it may be to say so, we can without difficulty acquit Noah and his children of having been the progenitors of types of disease. The earliest observations which we possess refer to insanity and epilepsy. The pronounced hereditariness of these two diseases was well recognised in ancient times, and in these days the hereditary character of epilepsy has been confirmed by experiment, Brown Séquard having shown that a guinea-pig in which epilepsy has been *artificially* induced will transmit the disease to its offspring. Now, diseases of pronounced hereditariness are prone to assert their presence at an early age in the offspring, and the truth of this is frequently illustrated in the case of gout, epilepsy, insanity, consumption.

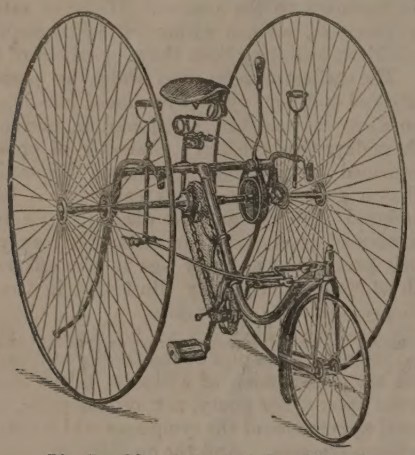
But the problem which has so far resisted any satisfactory solution is the nature of the medium through which the hereditary transmission of a disease takes place. For a man is not insane, nor gouty, nor consumptive, until the unequivocal appearance of the symptoms which respectively relate to these diseases. And the question naturally arises, if he derives gout, insanity, or consumption, by hereditary descent, how has the disease been transmitted? It is evident, in these cases, that something must have been transmitted from the parent which has secured the reproduction of the disease in the offspring; and it is the nature of this "something" which we cannot determine. The difficulty to which a discussion upon this subject leads is partially met by supposing that an hereditary disease is, in most cases, not itself transmitted, but only a predisposition to it; and the term "predisposition" in this sense is a convenient one. It is, however, scarcely more explanatory. For what is predisposition, resolved into its simplest terms, and reduced to a definition founded upon scientific fact?

M. VALLIN has read, before the Société d'Hygiène, some interesting notes concerning the use of tobacco. Dr. Decaisne has, since 1864, made communications on the subject to the Académie des Sciences. Cardiac nicotinism is manifested by an intermittent pulse and a tendency to faint. Among a hundred tobacco-smokers, discontinuance of smoking sufficed to remove the disturbance. Another note treated of the abuse of tobacco among children from 9 to 15 years. They suffered from chloro-anæmia. Their blood contained less than the normal quantity of corpuscles. In the carotid arteries there was a blowing sound; they were dull, and inclined to indulge in strong drinks. Chloro-anæmia resulting from tobacco-smoking may provoke pulmonary phthisis. Women who smoke suffer more severely than men, the cardiac symptoms being more severe and more frequent.

THE SPARKBROOK TRICYCLE.

BY J. EATON FEARN.

EVERY tricycle possesses at least some few special features which, having been patented by the respective manufacturers, are lacking in other types of machines. In one it may be an improved brake, in another a special balance-gearing, while in a third it may be in the construction of the machine itself. Even the much-abused rear-steerer, in some few points, has its advantages—as, for example, the easy way in which a lady can mount, or a rider dismount, in case of the machine running away. Again, a two-track tricycle is a decided desideratum when coming across a newly-mended road where only a small portion of the same at the side is rideable. A tricycle possessing the good features of all its compeers, with none of their defects, is indeed a consummation to be devoutly wished for by all enthusiastic wheelmen!



The Sparkbrook Central-Gear Tricycle.

Undoubtedly one of the specially good points of the Sparkbrook tricycle is its patent differential double-driving axle. Every cyclist knows that in all tricycles the act of turning, or even the slightest deviation from a straight course, causes a difference in the relative speeds of the two driving wheels, and unless the machine is furnished with some sort of balance gearing whereby a perfect distribution of the power transmitted from the pedal cranks to the two driving-wheels can be maintained, the machine is liable to tilt over. Now, with the Sparkbrook there is not the slightest risk of its overturning. The differential gear prevents this; by its means the machine may be safely driven at any pace or along almost any curve.

The small, nickel-plated, egg-shaped box containing the extremely simple differential mechanism is screwed to the centre of the axle, and does not in the slightest degree tract from the appearance of the machine, but, on the contrary, rather adds thereto.

The grip-brake is another good feature not met with in other machines. It is fitted inside the left handle of the machine. By this simple arrangement the machine is under the instant control of the rider, without any sudden, undignified clutching of a handle somewhere behind, and sometimes troublesome to find. The grip-brake stops the machine dead, if required, or reduces the speed neatly to the requisite requirement.

The central-geared machines (see figure), too, are fitted with a patent safety foot-brake, which is decidedly effective. It consists of the ordinary drum and strap fitted to the chain wheel on pedal shaft, and is applied by the rider removing one foot from the pedal and drawing it back upon the end of the brake lever which is pivoted on the crank bracket. The makers justly claim for this brake that the more power there is applied, or, in other words, the more sudden the stoppage, so much more is the centre of gravity removed to the rear of the axle; this, coupled with the fact that the action is necessarily more gradual, produces that element of safety which has hitherto been wanting in this class of tricycle.

The workmanship and general finish of the machine is everything that can be desired.

It is also exceedingly light and rigid, and, above all, perfectly noiseless. A further advantage is that every part of the machine is made to standard gauges on the interchangeable system, as adopted in the Government Small Arms Factories, and, in consequence, a duplicate of any part which may have worn out may be readily obtained.

The central-geared machines, for a small extra cost, can be also had furnished with a simple arrangement for speed and power, by means of which the hard work of getting up hills or driving against a stiff head wind is materially lessened, whilst the speed, also, on good roads is considerably accelerated. In a word, the machine comprises all the most valuable modern improvements.

Nearly all the weight is thrown on the two driving-wheels, except a few pounds on the steering wheel which is absolutely requisite. In order to prevent the slightest possibility of the machine tilting backwards, it is furnished behind with two tubular trailing rods attached to the frame, but so arranged that they do not in the slightest interfere with pushing conveniently the machine uphill.

The handles are adjustable in height, which adds considerably to the rider's comfort; and the whole of the wheels are mounted on Brown's Æolus ball-bearings, a *sine quâ non*, with the "knowing" cyclist. The solid parts, which include, of course, the axle, are made of crucible cast steel, the secret of the machine's light weight and strength.

The Sparkbrook tricycle is exceedingly elegant in appearance and in consideration of the above facts, it is not at all to be surprised at that the machine is a fast runner on even ground, and a capital hill-climber.

In fact, take the Sparkbrook for all in all, it may have its equals, but its superior none.

THE sharks which are found in the Mediterranean yield large quantities of oil, which is said to be as fine as cod-liver oil.

GALVANISM *v.* NERVOUS EXHAUSTION.—Pulvermacher's world-famed Galvanic Belts for the cure of nervous diseases have received testimonials from three Physicians to her Majesty the Queen, and many eminent members of the Royal College of Physicians, London. Mr. J. Collins, of 7, Musley-lane, Ware, Herts, writes as follows:—"May 5, 1885. Dear Sir,—I have great pleasure in adding my testimony to the excellence of your Galvanic Belt for my complaint, Indigestion. It has indeed worked wonders in me, and I have only had it a few months. Your Belt has restored life and vigour to my system, and has made life a pleasure to me. If you hear from any one from this part of the country refer them to me, and I hope to forward you an order for another Belt in a week or two for a friend."—Messrs. J. L. Pulvermacher & Co., the well-Medical Galvanists, who have had 36 years' experience in the treatment of Nervous Diseases, give advice daily at their Galvanic Establishment, 194, Regent-street, W., FREE OF CHARGE, and patients who are unable to call should write describing their symptoms, when medical pamphlet and advice will be sent *post free*. Pulvermacher's "Treatise on Nervous Exhaustion, Physical Debility, and Loss of Vital Energy," with testimonials received from medical men and private patients all over the country, sent post free on application to J. L. Pulvermacher's Galvanic Establishment, 194, Regent-street, London, W.

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

THE HEALTH-CARE OF THE AGED.

By L. H. WATSON, M.D.

FIRST PAPER.

DIFFERENT epochs in life are marked by the frequency or infrequency of certain morbid phenomena constituting that departure from the normal standard of health which we denominate disease.

What is life? is the unswerable question the human race has ever sought to solve. Bichat called it "the sum of the functions by which death is resisted." Physiologists of the present day offer little more that is satisfactory in their definitions, calling it "the aggregate of the phenomena peculiar to living organisms." The inscrutable mystery which surrounds the principle of vitality renders any attempt at definition illogical and unsatisfactory. We have to deal with the phenomena of life, and the functions through which these phenomena are manifested. In the child we have an exuberance of life. Manhood is the period of repose; waste and repair seem to neutralise each other; and calmness, deliberation, and quietude prevail.

With old age come disturbance, waste without repair, destruction without building up, action without reaction, decay and death. These phases of animal life are constantly repeating themselves. In discussing the diseases of old age we have to deal with the phenomena of life, the perversion of functions which have hitherto counterbalanced each other. The prime of manhood and stability is passed; internal resistance now fails to maintain itself against external force. Nutritive action does not respond to the demand to renew effete material. The equilibrium being destroyed, decay and the products of decomposition become the most important factors in the study of the diseases which now threaten to disintegrate this hitherto self-sustaining system.

It will easily be seen that the diseases which disturb the formerly evenly-balanced organism tend toward what pathologists call destructive metamorphosis. Blood-changes, tissue-changes, and secretory changes are subjecting us to constantly varying standards of health. How to maintain the equipoise as long as possible, and prevent the too rapid decline of the vital forces, as well as to suggest measures—when care and forethought can ward off the blow—is the province of the thoughtful medical man.

Threescore years and ten should certainly be reached by most of those who attain adult age, provided no inherited taint weakens the vital forces. It is difficult to determine the exact period of life at which the decline commences. In fact, there can be no absolute standard from which we can predict with unvarying certainty the gradual failure of the physical powers. Some seem to inherit a vitality which almost defies the ravages of time; but, although they are apparently in the full vigour of life, close scrutiny rarely fails to detect the fact that the scale is tipping downward. We do not grow old in a night, although we often make the remark that So and-So has grown ten years older since the occurrence of some great grief, or some disastrous reverse in business. The eyesight gets poorer, the hair and beard greyer and thinner; the form is more bent, the walk more uncertain, the *arcus senilis* appears in the cornea. After all, this is not old age; these are all warnings, but the heart is still warm, the eye still bright, the muscles still firm. The world looks as fair and inviting as it did in early manhood or womanhood; a little larger print to read, a smoother road to walk on, a few more flannels at night, and a little less labour during the day, with perhaps a greater disposition towards quiet, a greater fondness for home-life, and a disinclination to encourage the enthusiasms which time and experience have so often proved to them to be illusive.

We are to consider the physiological and pathological conditions arising during this epoch of life. Many of these are characteristic, and do not earlier manifest themselves. We have many works upon the diseases of children and adult life, but almost none pertaining to the diseases incident to age. And yet they are peculiar. The lung-inflammation of a child is not the pneumonia of an aged person. Slight ailments, unobserved or disregarded in the adult, become positive disease in advanced life. Our acute fevers, inflammations, fluxes, &c., are not met with among the aged.

Congestions, chronic inflammations, tumors of the brain, paralysis, rupture of blood-vessels, enlargement of the heart, chronic bronchial affections, dropsical effusions, indigestion, diseases of kidneys and bladder, especially the latter, cancers, &c., are what the physician is most often called upon to prescribe for in old people. Aside from actual disease, the conduct of the life of elderly persons is to be studied and observed. Ordinarily old age brings with it, or should, a certain degree of leisure and immunity from the distressing anxieties which vex and worry the lives of men actively engaged in business. The danger of sickness from exposure, as far as the *liability* to exposure is concerned, and the danger arising from accidents are lessened; old people are careful, and warily thrust themselves into danger. Calmness, quietness, and a regular habit of life, succeed to confusion, activity, and an indulgent and irregular method of living. Life wanes, the descent is easy and gradual, a peg is lost here and a prop there, the sympathies become blunted, the intellect chilled, the senses lose their acuteness, and "the play is played out." What more delightful spectacle than an aged person in full possession of all his faculties, enjoying life with the zest of manhood's prime, appreciative of the pleasures of the table, the society of friends, the charm of music, and the intellectual feast that a good book presents to him!

HOW TO MAKE TOOTH-POWDERS.

THE following are recipes for several excellent tooth-powders, well adapted to preserve the teeth and to arrest the progress of tooth-decay.

Carbon Tooth-powder: Charcoal, in very fine powder, 2,000 parts; chinchona bark, 500 parts; oil of bergamot, 15 parts; oil of lemon, 30 parts. Mix intimately.

Chalk Tooth-powder: Precip. carbonate of lime, 2,000 parts; starch, 15 parts; orris root, powd., 250 parts; oil of cinnamon, 30 parts.

Another Chalk Powder: Precip. carbonate of lime, 2,000 parts; camphor, 500 parts; orris root, powd., 1,000 parts; cinnamon, 250 parts.

Another formula is: Precip. carbonate of lime, 2,000

SCOTT'S MIDLOTHIAN OAT-FLOUR.—There is no preparation which can be assimilated with greater facility than such a flour as this. Those who suffer from indigestion might substitute for their ordinary breakfast materials this flour, prepared according to the recipe given by Messrs. Scott and printed on the tins.—ED. HEALTH.—[ADVT.]

parts; orris root, powd., 1,000 parts; oil of rose, 5 to 15 parts; oil of sandal-wood, 10 parts.

A useful powder is made as follows: Precip. carbonate of lime, 2,000 parts; cuttle-fish bone, powdered, 1,000 parts; orris root, powdered, 1,000 parts; oil of bergamot, 20 parts; oil of lemon, 40 parts; oil of neroli, 10 parts; oil of Portugal, 20 parts.

These powders should be used morning and night, with tepid water and a soft tooth-brush. The teeth should be brushed vertically (or up and down), and not across, as is the usual fashion—a practice which tends to wear the enamel.

WHY PEOPLE TAKE MEDICINE.

Dr. Crofts, in the *British Quarterly Review*, has the following remarks:—

It is to be feared that, to most people, medicine is not an erudite science, or a learned art, but is little more than the commonplace administration of physic. They cannot understand medicine without drugs, and its virtue and power are popularly measured by the violence of its operations. Its very name is, in ordinary parlance, synonymous with physic. Take from it its pills and potions, and for them you take away its whole art and mystery. They do not believe in a scheme of treatment, however deep-laid and skilful, which does not include a certain statutory dosage; so that, as a rule, medical men are practically compelled to give their patients a visible object of faith in some form of physic, which may be at most designed to effect some very subordinate purpose. And it is remarkable how strongly, even among the educated classes, this feeling prevails. Cure by the administration of mixtures and boluses is so fixed and ancient a tradition, that it is only very slowly that the world will give it up. The anxiety of the friends of the patient wants to do more than follow the simple directions of "nursing," which have been so carefully inculcated, and possess, apparently, so little remedial power. There is nothing of the unknown about them in which a fluttering hope of great advantage can nestle.

Thus it is necessary to educate the world into a belief in medicine apart from drugs, which finds its power of curing in adaptations of the common conditions of life, and applications of physiological facts—a medicine which takes into its hands the whole life, and orders and fashions its every detail with scientific definiteness. It is found in every-day practice that this popular misunderstanding of the modern spirit of medicine constantly checks the little tentative advances of a more scientific treatment, and it is necessary that it should be generally understood how powerfully the various processes of the economy may be affected by the manipulation of the conditions of common life.

The powder of cork is met with in trade under the name of *liègine*, and is used in place of lycopodium for healing skin-cuts, &c. The waste resulting from the manufacture of bottle corks is made useful by being mixed with plaster, &c., for partitions, filling walls, and other purposes. It also produces an excellent kind of charcoal, which is said to be good for gunpowder manufacture.

In South America, sugar is used as an antidote against one of the most sudden as well as fatal poisons in the world. Taken by mouth, the poison referred to is quite innocent, but the slightest wound made by an arrow, whose point is tinged therewith, causes speedy death. The fish and birds killed by these poisoned arrows (in the use of which the Indians are astonishingly expert) are perfectly wholesome to feed on. It is a vegetable preparation.

Public Health

"Health is the first Wealth."—*Emerson.*

OUR AMBULANCE LECTURES:

What to do in Emergencies and Accidents before the Doctor comes.

No. XVII.—THE TREATMENT OF WOUNDS AND BLEEDING (*concluded*).

By Dr. Andrew Wilson.

Having seen how the ambulance student should make compression of the wounded artery his first care on being called to a case of hæmorrhage, by way of at once arresting the flow of blood, and of thus conserving the patient's strength, we may now pass to the consideration of the subject of *tourniquets*. These are appliances for the arrest of arterial bleeding. A *tourniquet*, whatever be its nature, is intended to apply compression to an artery for any length of time that may be required. It is seen, in this way, to provide a supplementary means of controlling bleeding to that we find in our fingers and thumbs in the first instance.

Suppose the student called into a case of severe wound of the forearm. He at once recognises that an artery or arteries have been wounded by the spurting of the blood in jets, and by its light red colour. At once his thoughts rush to the means of controlling this waste of the vital fluid. He knows that two methods await his behest. He may (as described in our last article) place a pad in the hollow of the elbow, bend the forearm on the upper arm, and bandage it in that position; or he may, as we also saw in last week's Health, compress the main vessel (the *brachial artery*) in the upper arm with his fingers, and control and cut off the supply of blood to the wounded parts below. His next care will be to look about for a substitute to replace his fingers in the latter case. This substitute is a *tourniquet*, and this appliance may be of various kinds—simply and readily made, or complex and derived from the surgeon's *répertoire*, as the case may be.

Of whatever materials a tourniquet may be made, it must include three conditions or parts. There is, firstly, a *bandage* of one kind or another; there are, secondly, *means for tightening this bandage at will*, and there exists, thirdly, *a pad or compress*, which is intended to replace the fingers that are pressing on the artery.

The handiest tourniquet which can be made is that constructed of (1) a pocket-handkerchief, of a leather strap, of a brace, of a triangular bandage, of a necktie, or of any other similar material; (2) a piece of cork or wood, or a small stone by way of compress; and (3) a piece of stick wherewith to twist the bandage (as a drayman twists the ropes over his barrels with a rack-pin), and thus to exercise great pressure at will.

In Fig. 1 we see such a tourniquet applied to a limb. Here the compress (on the brachial artery of the upper arm) is a piece of wood; a handkerchief forms the bandage, and a piece of stick is the twisting lever. The stick (a pencil can be used if no other means is at hand) can be tied in position so as to keep the tourniquet tightly applied to the limb, and a patient thus attended to may, if need be, be conveyed for miles in safety to a surgeon to have his wound surgically treated.

To Inventors.—Inventions protected by Royal Letters Patent at lowest rates. Provisional protection for nine months, £2. For all information concerning Patents address Messrs. Lulman & Co. Patent Agents, 8, Essex-street, Strand, London, W.C.—[Advt.]

Other forms of tourniquets are depicted in Fig. 2. Here, on the femoral artery of the left leg, a *Petit's tourniquet* has been applied. On the right leg, an *Esmarch tourniquet* is shown in position.

Petit's tourniquet consists of two plates of brass, connected by a screw moved by the handle seen in the figure. A strap (and buckle), with a pad attached, also shown, is made to pass between the two brass plates or holders, and can be adjusted to suit any size of limb. In applying this tourniquet, we see that the pad is placed over the artery to be compressed; while, if a separate pad, as shown in the drawing, is used, it is placed in the proper position. The belt is then drawn tight, and firmly buckled over the pad. Then, by turning the screw, and separating the brass holders of the tourniquet, we bring immense additional pressure to bear on the pad through the consequent tightening of the strap; and the bloodvessel can, therefore, be controlled by any degree of tightness we choose to exert.

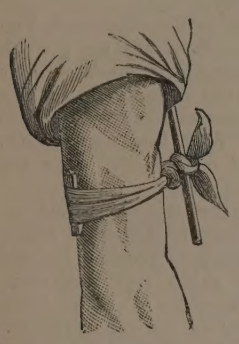


Fig. 1.—Improved Tourniquet.

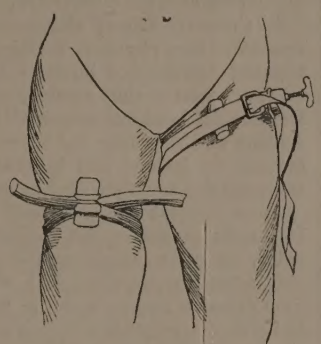


Fig. 2.—Petit's and Esmarch's Tourniquets.

The Esmarch tourniquet, shown in position on the right thigh, is much more simple in its application. Here a rounded piece of indiarubber is employed. Upon the indiarubber is fixed a wooden or metal catch. The indiarubber will only pass into the catch when it has been made slender by being extended, so that once in the catch, it holds itself fast by its own recoil. In applying this tourniquet, therefore, all that is required is rapidly to wind the indiarubber tubing round and round the limb, so as to compass the limb very tightly. This being done, the free end of the tourniquet is slipped into the catch, and is thus kept secure. If necessary, a pad may be placed over the artery as before; but in cases of great emergency, the Esmarch-tourniquet can be used at once by simply being wound round and round the limb, without the intervention of a pad.

Another form of readily-made tourniquet is that known as Völker's stick-tourniquet. This latter appliance is made by taking two pieces of stick, each about six or eight inches long. One piece is placed across the outside, and the other across the inside of the limb. The ends are then tied firmly together, or rather are brought as near together as they will come, by handkerchiefs, so that the limb is squeezed or pressed by the sticks, and the artery pressed against the bone of the limb. A stick may also be placed between the chest and the upper arm, when, if the arm is tightly bound to the body, pressure is made on the artery as before.

The question naturally arises, "How long may a tourniquet be kept in position on a limb?" The reply to this query depends upon the circumstances of the case. In most cases it will be wise to leave the tourniquet, after the bleeding has been controlled by its application, in its position until the surgeon arrives. If his advent is long delayed, and the bleeding has entirely ceased, the tourniquet may, after say two or three hours have elapsed, be slowly and cautiously loosened. The eye of the observer will be kept on the wound, and on the least appearance of bleeding the tourniquet is at once to be tightened, and the bleeding controlled. If, however, no bleeding recurs after the tourniquet has been loosened, it may be allowed to remain so, *but the patient must be carefully watched, and on no account left, even for a moment; inasmuch as, on the first sign of recurring hæmorrhage, the tourniquet will require to be tightened.* On this account, a tourniquet *should never be taken off the limb, but kept in position, ready, if necessary, for re-application.*

A concluding caution in the matter of the treatment of wounds may be given in the shape of the advice that where any doubt exists in the mind of the student regarding the nature of a wound—that is, whether it is arterial or venous—he should err on the safe side, and treat the wound as if it were the more serious of the two, namely, an *arterial* one. A tourniquet, or compression with the fingers, should be at once, in doubtful cases, made on the nearest main blood-vessel or vessels, as already described. If the injury is one in which an artery is involved, it will thus be at once attended to, as the urgency of the case requires. If a vein has been wounded, the case is not of such urgent nature, and the delay incurred in ascertaining the exact extent of the injury and in applying the tourniquet will be immaterial.

A second piece of advice is that which counsels the ambulance-student to see and to examine each wound for himself. If cloths or clothes obscure his view, let those be removed. "Never work in the dark," in the matter of wounds, is a rule ever to be borne in mind. If clothes are in the way, never hesitate to cut or tear them off. The bystanders are always on the side of economy, because they do not realise that "life is more than raiment" in this sense. Therefore, rip up the clothes, whenever necessary, with knife or scissors; always remembering that your object is to save time, and to control bleeding with the least possible delay.

Carbolate of Soda in Tooth Extraction.—Phenate or carbolate of sodate, is said to give almost magical relief to the *after-pains* of tooth extraction. It may be applied upon cotton, over and around the alveolus, but so placed as not to interfere with the closure of the cavity by the clot, and the kind and prompt healing likely to result from its retention. It is preferable to the ferruginous preparations as a hæmostatic; it is not escharotic, but sedative and antiphlogistic in its action. It is highly recommended as an astringent and styptic application to check excessive bleeding, and prevents subsequent soreness of the gums. It causes rapid absorption of the extravasated blood, thereby preventing fætor of the breath, and facilitates the speedy closing, healing, and hardening of the gums. As a mouth-wash it is highly useful in cases of soft, spongy, and swollen gums, which bleed at the slightest touch. Used of various degrees of strength, from its full strength to one in twelve of water.

Scott's Midlothian Oat-Flour.—Messrs. A. & R. Scott, of Kingston, Glasgow, and Finsbury-square, London, have prepared a singularly pure and nutritious "Oat-flour," which bids fair to take high rank among the food products which are specially adapted for infants and invalids, and for the use of dyspeptics in particular, whose digestion is weak, and whose stomachs refuse to assimilate foods of ordinary kind.—Ed. Health.—[Advt.]

Recreation and Health

"Health is the vital principle of bliss,
And Exercise of health."—*Thomson.*

PHYSICAL TRAINING.

BY D. A. SARGENT, M.D.

Professor of Physical Training and Director of the Hemenway Gymnasium, Harvard University.

SECOND PAPER.

DURING this period there was little intellectual strength, no real physical hardihood. Life centred around one idea, and that idea was twisted and contorted by the fervour and zeal of an over-stimulated emotional nature. In a few centuries more fanaticism ran wild. Nations, like individuals, became possessed of strange delusions and morbid fancies. Millions of persons were simultaneously crased with nervous excitement and emotional recklessness. Then came those terrible moral epidemics, which have blackened the pages of history and hampered the progress of Christian religion.

Why need we speak of the "Trials of Innocence," the "Crusades," the "Black Death," "The rise and spread of the Flagellants"—"The wholesale murder of the Jews," and "The Dancing Mania." All of these cruel delusions, pathologically speaking, come under the same category. All are attributable to the same physical conditions. Suddenly the excitement abated, a brief prostration followed, and the people awoke from their hallucination as if from an ugly dream. With the dawn of chivalry physical exercises were again revived, and fashioned after the spirit of the age. With every knight, his house was his castle, and there he felt bound to defend himself. Individual prowess was the backbone of chivalry, and, consequently, every exercise which was calculated to give it, was practised assiduously. Here we have fencing, boxing, wrestling, horsemanship forming the essential part of their system of training. And dancing must also be added, as an adjunct to their professional distinction, "as the champions of God and the ladies."

The highest interest in these accomplished exercises continued until the downfall of the feudal system. A few centuries later, great interest was awakened in physical training in Germany by Frederick Ludwig Jahn. His system was modelled somewhat after the Greeks, with the athletic spirit left out. To develop the body and mind together was the primary object. To accomplish this purpose gymnastics were introduced into the schools, and exercises in declaiming, singing, &c., were made a part of the regular curriculum in the Turnhalles and at gymnastic societies.

Interesting allusions might be made to the influence of early physical training on the development of the intellectual life of Germany, but that would be foreign to the main object of this paper.

At the time Jahn began to establish his Turnplatz in Prussia, Germany was suffering under the galling oppression of the French, by whom they had lately been subjugated. Societies were organised for the purpose of producing a closer union among the young men, and arousing them to patriotism. The corrupt refinement of French manners, which had been introduced into Germany prior to the revolution, had weakened and relaxed the sinews of her youth, and left them sickly and effeminate. Jahn was prompted with the desire to stay the demoralised tendencies of his countrymen, and to morally and physically regenerate them. With this object in view he set to work. The result of the late Franco-Prussian war furnished us the sequel. But how were these desired results brought about? In looking over the physical exercises of the Germans, we find but little stress put upon individual feats, but great attention given to class and squad exercises. The posturing and pyramiding which owe their development largely to the Germans, illustrate the point which we wish to make. Here the success of the tableaux, grouping or act, as a whole, is the thing to be desired. Each participant becomes a unit, and sinks his individuality for the good of the cause. Perhaps the figure is a pyramid, one man may be drawn for the base, another for the middle, and a third for the apex. There are no best places, for all are equally important. If one fails the figure is incomplete. Success depends upon a joint interest and mutual responsibility.

In the Scottish contests, and British sports and games, we get the antagonising spirit and mutual fellowship interest combined. In one case a man represents himself, in another case his club or fraternity.

In the early history of American settlements we find no necessity for physical training. Breaking up ground, clearing forests, and hunting Indians gave our forefathers all the exercise they needed, and the domestic duties of a frontier life kept our maternal ancestors free from nervous debility and muscular feebleness. With increased wealth, division of labour, and intensified mental life, came the necessity for more physical exercise.

How to meet this necessity is the problem before us. In briefly reviewing the subject from its historical standpoint, we get a comprehensive glimpse of possibilities, and are better prepared to deal with drifts and tendencies. The life of a nation, and the transactions of an age, bring to light characteristics which are often masked in the life of an individual, and when reviewed retrospectively the relation of cause and effect are more clearly discerned.

The Greeks have taught us the danger of supreme physical development without moral stability. The Romans have shown us how easily refined sensibility can become blunted, and coarse animal instincts gain the ascendancy. The early Christians have taught us the perils of neglecting the body, mortifying the flesh, and long suppressing the natural sympathies and emotions. In the bold, dashing, and gallant knights we get the reflex influence of the accomplished arts, fencing, boxing, horsemanship, &c., which flourished in the age of chivalry. In the stolid but persistent drilling and marching of the German youth, in their feats of the Turnplatz, requiring unity, strength, solidarity, we get the key to the same qualities which have dug down into the depth of science and literature, and placed their nation at once in the foremost ranks of the military and thinking world.

In the football games of Rugby and Eton were developed the grit and tenacity that changed defeat to victory at Waterloo. The cricket matches and boat races at Oxford and Cambridge trained to vigorous manhood the champions of the church and the crown of England.

In reading the works of Scott, Christopher North, and many of the Scottish divines, who can help thinking of their power in putting the shot, tossing the caper, and throwing the heavy hammer?

A VERY strong solution of salt, applied boiling hot, will kill insects and preserve wood.

LINOLEUM is a composition of cork powder and linseed oil. Sometimes cork powder is found highly adulterated with sawdust and clay. Cork leather is made from India-rubber and cork powder; it is much used for waterproof articles.

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sidney.*

Lightning-Rods for Human Beings.—Mr. P. B. Delany, of New York, inventor of the wonderful synchronous telegraph system, has recently patented a lightning-rod for the human body. It consists of a large copper wire that passes down the back, with branches extending along the arms to the hands, and along the legs to the exterior of the shoes and to metal soles thereon. The wearer, if provided with this rod, may, if standing on the ground, handle electric light wires with impunity; and if out in a thunderstorm would stand a good chance of not being hurt if his rod were struck by lightning. Mr. Delany ought to carry a branch of his rod up the back of the neck, and have it connect with a point on the helmet of the policemen, and so give them protection. It has heretofore been proposed to have lightning-rod umbrellas—that is to say, an umbrella provided with a flexible wire that extends from the tip of ferrule over the outside of the umbrella, the wire reaching to and allowed to trail on the ground.—*Scientific American.*

* * *

Heat and Cold to the Hands as a Healing Measure.—Vasilieff (*London Medical Record*) has found, as the result of a hundred experiments, that if the hands are bathed for half an hour in water of a temperature of from 86° to 95° F., the temperature in the outer ear opening is increased, the pulse and the respiration are accelerated, and the blood pressure in the temporal arteries is considerably increased, with distention of the retinal veins. On substituting for the warm water a like quantity having a temperature of from 40° to 55°, the effects are exactly the contrary. The inference is that bathing the hands with cold water is an excellent way to combat congestion of brain. It is stated by Askotchensky that obstinate bleeding from the nose may be stopped by this simple plan.

* * *

A Remedy for Street Noises.—A correspondent of the *Medical Times and Gazette* states that he has found the following plan very useful in procuring relief from street noises. Place some spermaceti ointment in the centre of a little square of thin limp cotton, bring the corners together and tie them with thread, and insert the plug thus made into the ear. By gentle kneading and pressure the plug takes the shape of the auditory canal, and will be found most useful in cases of sickness when any noise distracts the patient. For many years in the writer's practice it has been the custom to plug, when necessary, the patient's ear with cotton-wool soaked in oil—a plan that has prevented in many instances scattering straw on the highway.

* * *

Cure of Rheumatism.—*El Siglo Medico* relates the following singular cure from La Paz, Bolivia. A woman had suffered so much from rheumatism, that for six months she had hardly slept. Her right arm was so affected that it was quite useless; she could not work with it or dress herself. While in this state she heard of a countryman who suffered in the same way, and who had been cured by the accidental sting of a bee. As the pain caused by the sting could not be worse than that due to the rheumatism, she determined to try the same remedy. Three bees were obtained and made to sting her on the right arm. The success of the treatment was surprising and complete. On the following night she was able to sleep, and the acute pain had all but completely disappeared. The arm was naturally a good deal swollen, owing to the sting, but the swelling quickly disappeared with cold water dressing. The use of the arm gradually returned, and since there has been no symptom of rheumatism. It is said that the same remedy has been equally successful in several other persons.

* * *

Cricket for Girls.—The announcement of a cricket match between an eleven of ladies and an eleven from a girls' school has caused an apprehension in the minds of some of the risk to which feminine players are exposed. One correspondent points out the consequences likely to ensue from a blow received on the breast from a cricket-ball, either delivered from the bowler's hand or struck by the bat. Doubtless a severe blow on the breast might lead to serious consequences in fully-developed women by excitation of any latent tendency to cancer, and in young girls by arresting development of the mammary gland. Still, we think, the risk might be reduced to a minimum if the feminine players wore a well-padded corset both in the field and at the wicket. We should regret that a game, really well suited as an exercise for girls, should be discouraged simply on account of a risk that could be guarded against. We have repeatedly in our columns advocated the advantages to be gained, in the physical education of girls, in the introduction of a well-regulated and moderate athleticism—by allowing them to join in pastimes at present mostly limited to boys, such as swimming, rowing (not boat-races), and cricket. The thorough development of the female frame which such exercises would induce, would, we are sure, do much to diminish the tendency towards the special diseases which so many women suffer from in after-life. One positive advantage would be gained by the abolition of tight stays and high-heeled boots, which would be impossibilities for young ladies who wished to enjoy athletic pursuits even in moderation.—*Lancet.*

* * *

Compulsory Registration of Dairies and Milkshops.—The Scotch Board of Supervision has at last determined to act on the now well-known and too often exemplified truth, "that disease is largely disseminated from dairies and milkshops in which any person is suffering from an infectious disorder;" and there has been issued a new Order in Council which is to take the place of that of February, 1879. The principal features of the new regulations are the compulsory registration of all dairies, while special attention is to be directed to their state of cleanliness, to the persons employed about them, and to any conditions that might make them the centre of disease. Thus, the buildings used must be properly ventilated and drained, there must be a pure supply of water, and under no conditions is a milkshop to be used as a sleeping apartment. Any one who is acquainted with the history of previous epidemics of disease due to contaminated milk-supply, will scarcely regard the restrictions enforced by the new order as severe or unnecessary; and we believe that still greater safety would have been attained had the Board of Supervision still further exercised its powers, and given the local authorities in our large towns complete control over their respective milk-supplies. With the issue of this new order, the duties of the Board do not end. They have to see that the inspection which their regulations necessitate is such in reality, and is not merely a form.—*British Medical Journal.*

Sanitary Inspections.—Fee for Survey and Report, in London 2 Guineas. Estimate given and Improvement Works carried out when required.—The Sanitary Engineering Co., 115, Victoria-street, Westminster, S.W.—[Advt.]

Our Bookshelf

"Reading maketh a full man."—*Bacon.*

THE SOURCES OF HEALTH.

The Seven Sources of Health. A Manual of Personal Hygiene; or Rules for the Preservation of Health and the Prevention of Disease. By William Strange, M.D. New and Revised Edition. (London: Henry Renshaw.)

Dr. Strange has based upon this title a series of articles that are well-nigh exhaustive. The amount of information conveyed in this little book is really marvellous. Indeed it may be said there is not a nook or cranny connected with his subject into which he has not flashed the light of his lantern, and the result, as may be expected, is an extremely interesting, highly instructive, and, it may be added, concisely-written little book.

Dr. Strange arranges his work in eight chapters. In the first of these he gives a brief account of the principal functions of the human body, and points out the differences in temperament, habit, and predisposition, while in each of the following chapters he furnishes a consideration in detail of the influence exerted on these functions by one of the vital stimuli of Nature—*i.e.*, Air, Light, Temperature and Climate, Food and Drink, and Exercise.

Taking up, in the first place, the consideration of *Air*, Dr. Strange observes how necessary this commodity is to all life. Few persons, he considers, rightly estimate the vital importance of our atmosphere. No life can exist without the entrance of air, or its oxygen, into the tissues; and, in regard to land animals, he points out that, except in the case of some of the lowest organisms, they not only require to breathe by lungs or their equivalent organs, but their bodies must also be surrounded by air. If, he observes, we remove the hair from any animal, such as a rabbit, and then varnish the skin, so as to render it impermeable to the atmosphere, death will result, even though air all the time be freely admitted by the lungs. In order, however, to understand the great importance of pure air—or air, that is to say, as pure as one can get it, for all air contains a certain proportion of carbonic acid—it is necessary to bear in mind the great fact that all animals live by change. Food furnishes the material by which this change is accomplished, but that supplied by the air, Dr. Strange tells us, is infinitely more bulky than the solid substance assimilated.

From this, Dr. Strange proceeds to consider the *mechanism of respiration.* In the course of his inquiry, he describes the organs and parts—lungs, muscles, ribs, nerves—which contribute to this act. He points out that the time for enlarging the capacity of the chest, by exercising its muscles, is eminently the period of early youth. If the muscles of the arms, chest, and back, by means of which respiration is chiefly carried on, be not properly developed by exercise, the cartilages of the ribs become ossified, or, in other words, transformed into bone, and their elasticity is for ever destroyed. A fixed quantity of air only can now enter the lungs, and, as a consequence, only a limited amount of physical exertion is possible. If more be taken, great difficulty of breathing is the result, attended in many cases by much exhaustion and collapse. This he believes to be the common condition of thousands of young ladies whose education—in superficial accomplishments, we would remark—has been forced by lengthy confinement to the desk and schoolroom, and which the customary daily walk, in prim ark-like procession of two and two, does absolutely nothing to alleviate.

"At the present day in all the best seminaries," he writes, "what are called calisthenic exercises have been introduced, by means of which a good deal of bodily exercise is obtained. But the great vice of girls' schools, and of many boys' schools also, is that the hours of study, at *one stretch*, are too long—much too long. The natural condition of the young of all animals is to alternate active exercise with repose, at *very short intervals.* Work and play, work and play, should be alternated, not once only, but several times in the day. If a period must be fixed, I would say that *three hours* is the utmost that boys should be confined to the schoolroom at one time (two hours and a half are much better), and *two hours* in the case of girls. This principle might even be extended with advantage to all the occupations of a sedentary nature—to students at college, clerks in public offices, apprentices to professions, &c. Instead of seven or eight hours of uninterrupted work, with a few hours for relaxation in the evening, which, in winter, are little available for active exertion, it would be much to the advantage of their health and tone of body and mind, if their labours were suspended once or twice in the course of the day, and a couple of hours given up to active exercise."

We need scarcely say that such words as these meet with our warmest approval. They embody, indeed, the doctrine we have never failed to preach from our first existence. Much good, however, we are inclined to think, has been already effected in the direction indicated, and the young ladies' seminary of to-day is no longer what it was even five years ago, though undoubtedly much requires to be done before the improvement can become general. There is much more in reference to the subject of air that we would gladly quote from Dr. Strange's pages—much good advice, for instance, as to the errors of tight-lacing, many scientific truths regarding the composition and properties of atmospheric air, the amount of carbonic acid expelled from the lungs, and the animal matter exhaled from the body, the evils of over-crowding, the necessity of efficient ventilation, effect of the air of certain localities on the constitution, &c., &c.; but our space is limited, and with a desire to notice other portions of Dr. Strange's work, we must pass these and other equally interesting and valuable topics by.

The succeeding chapter is devoted to *Light.* Upon this there is scarcely so much to be said as upon other sections of the main subject, but the general effects of light are admirably commented upon and displayed. It is, in the first place, pointed out how exceedingly beneficial and necessary light is to the vegetable kingdom. Next, its effects upon animal life are considered. In regard to this, Dr. Strange mentions the experiments of the well-known naturalist, Milne Edwards, upon the development of the frog. This gentleman has shown that if "tadpoles are deprived of light during the time when they should undergo their metamorphosis into lung-breathing animals, they will remain tadpoles; they do not pass at all into the frog, but only grow into *larger* tadpoles. And this is so, even although the animals are nourished with proper food and exposed to the contact of water constantly renewed."

The result of deprivation of light, its effect upon children, and the physical deterioration caused by the want of it, are all clearly treated. Equal commendation may be expressed of the section immediately following this, which treats of *Heat.* Here we have the normal temperature of the body considered, power of resisting extremes of temperature, forces regulating the animal heat, and the various kinds of clothing required, their thickness, material, colour, &c.,—all explained and commented upon in highly interesting and instructive fashion.

Probably the most interesting, as it certainly is the longest, chapter in Dr. Strange's book is that upon *Food.*

This extends over some eighty pages, and is replete with serviceable information. Commencing in the first instance with an account of the nature and uses of food, our author next proceeds to discuss digestion, the essential principles of food—in the course of which he gives an excellent table showing the mean time of digestion of the more usual articles of diet—aqueous food (including the consideration of various drinks, such as tea, coffee, beer, wine, alcohol, &c.), and the general features of diet. We naturally turn with considerable interest to see what our author has to say on the subject of alcohol. Apparently he is of the same opinion as most scientific men of the present day—that its use in a modified form, especially for *old people*, is not to be rigidly condemned. Much, however, will depend upon the nature of the occupation. If out-door exercise be involved and much physical exertion be required, then beer or stout will probably be the most suitable form of stimulant, while for work in which the intellectual powers are much exerted our author would recommend the lighter wines, such as good claret or sherry. Each person, however, by careful observation should be able to tell what is best for his individual temperament, but in all cases the most proper hour for taking any stimulants is at meal times, and never, if possible, early in the day. Summing up the question, our author remarks:—

"From what has preceded it will be gathered that, whilst the habit of using stimulating drinks is so ingrained in human nature that it is never likely to be discontinued, every advance in true civilisation tends to restrict their use within narrower bounds, and to supersede it altogether with an ever-increasing number of persons. The abandonment of the excessive use, which is abuse, of intoxicating drinks, will be found to fortify the argument for their moderate and physiological employment. When drunkenness is abolished by the advance of good manners, and by the elevation of mind which demands more intellectual stimulants than drink can give, the moderate use of alcohol to assuage pain, to remove exhaustion, to soothe care and anxiety, or to blunt the edge of bitter disappointment will find few opponents; teetotalism will die a natural death from want of the opposition which feeds it. In the meantime, *one caution:* he who depends upon the mock courage which drink gives for facing difficult circumstances, or performing unpleasant duties, or bearing up against long-continued anxiety and perplexity of mind, will find that he had taken a reed into his hand which will break and bruise instead of support and steady him. Difficulties may be borne with and surmounted even when they seem insurmountable; but never if the false ally, *drink*, be called in to assist in the contest. Well may one in such a position say with the Trojan hero, 'Timeo Danaos et dona ferentes.'"

We had fully intended in commencing this review to have mentioned in detail other portions of Dr. Strange's interesting book. Exigencies of space, however, prevent us, and for the remainder of the work, embracing the chapters on "Exercise," "Cleanliness," and "Sleep," we must refer the reader to the volume itself. In most respects, he will find it well worthy of his perusal.

Paint spots may be removed from clothing by saturating the material with equal parts of water of ammonia and turpentine.

Remedy for Burns.—The following is a good remedy for burns:—Mix four ounces of the yolk of eggs with five ounces of pure glycerine. This forms a kind of varnish, which protects the burn from the irritating action of the air.

At the Inventions Exhibition.

By Our Own Reporter.

III.

In the Eastern and Western Quadrants respectively are some specimens of non-arsenical wall-papers manufactured by Messrs. Jeffrey & Co., Essex-road, N., and Messrs. Woollams & Co., of Manchester-square. They are similar to those shown at the Health Exhibition last year by the two firms, and show even a greater degree of artistic excellence. It may be useful to remind householders that it is not necessary, unless they wish it, to pay a very high price for these non-poisonous papers. The cost of the machine-made pieces is very little in excess of the price charged for the old-fashioned papers, loaded with deleterious pigments, and if cases of poisoning from this cause occur in future, no one will be to blame but the careless people who do not trouble to inquire into the merits of the articles they purchase. In the Western Quadrant also there is a large show of requisites for lawn-tennis and other games. As aids to healthy exercise, they are worthy of mention in these columns, although it is not within our province to enter fully into the merits of the various exhibits. Mr. Randall, 39, Poultry, has (1,619), amongst a variety of lawn-tennis and cricketing shoes, some boots and shoes for ordinary wear, which may be commended for their sensible make, and their adaptation to the shape of the human foot. An automatic exercising stool (2,348), exhibited by the Western Mechanical Company, Exeter, is designed to provide a means of obtaining healthful and pleasurable exercise at home, in addition to its use as an ordinary seat and music-stool. It is in a pedestal form, similar to a music-stool, and can be regulated to suit individuals of different heights. The adjustable seat is mounted upon a steel spiral spring, within which are arranged padded buffers, fitted in a manner to regulate the distance between them; or the buffers can be tightened together, by which means the stool is rendered firm for ordinary use. When they are separated, the body is carried upon the spring, and can be vibrated up and down, giving a gentle bumping action or concussion upon the buffers at each depression. The movement obtained by the apparatus resembles the action of a horse. The body can be swayed about in any direction, and full play given to the arms and chest. The inventor recommends its use for ladies and invalids as a means of obtaining muscular exercise indoors and during long sea-voyages, when such exercise is difficult to obtain. We fancy, however, that a passenger, say, to New Zealand would hardly care to incur the ridicule to which the production of such an apparatus on the saloon deck would expose him.

The group for "cutlery, ironmongery, &c.," contains a few cases of surgical instruments, and exhibitions of the art and science of dentistry, but unfortunately in very few instances are there any attendants of whom to make inquiries, and, of course, the articles are enclosed, and can only be viewed through the glass. Messrs. Krohne & Sesemann, 8, Duke-street, Manchester-square, show (1,811) an improved method for applying warmth or cold to any part of the body, for reducing inflammation and relieving pain. The method consists of a small coil of metal tubes attached to a supply of hot or cold water (as the case may be), the tubes being laid upon the part of the body to be treated. At the next stand (1,812), Mr. Thomas Hawksley, 357, Oxford-street, has a selection of surgical instruments made of the V. W. H. Vulcanised india-rubber, which are worth attention, and some cushions and mat-tresses of the same material which are designed with the object of counteracting jars. Amongst the dentists, Dr. G. H. Jones, 57, Great Russell-street (1,816) has the best display. His methods of treating the teeth are well known by this time. Mr. Jones was one of the first to adopt and introduce nitrous oxide into this country for the painless extraction of teeth, and another valuable invention of his is the fixing of artificial teeth by atmospheric pressure. The action is simple, while the effect is most perfect. The tongue easily, and by a natural movement, effectually exhausts the air from the valve, and the teeth are retained *in situ*, upon the principle by which a boy raises a stone by means of an ordinary sucker. This plan obviates the old and somewhat clumsy arrangement of fitting the teeth with springs and wires which frequently require repair, while the perfect contact of the artificial teeth with the roof of the mouth which this improvement secures, prevents crumbs and portions of masticated food from hanging about the mouth—always a source of discomfort, and tending to produce a foulness in the breath not only inconvenient to the patient, but which is always a sure indication of the presence of ill-fitting artificial teeth. Mr. Jones's latest invention is an electric dynamo for illuminating the mouth, and it should be added that visitors to the Exhibition are

presented with a pamphlet which, apart altogether from the necessary advertisement of Mr. Jones's system, contains some sound advice on the general subject of the preservation of the teeth or the advantages of artificial substitutes when the natural ones have been destroyed.

In Group I., "Agriculture, Horticulture, and Arboriculture," there are one or two exhibits for perfecting the milk-supply of the country and ensuring the purity and cleanliness of this important article of food, which deserve notice. Messrs. Vipan & Headley, Leicester (28) have some excellent cans and carriages for ensuring milk in transit against the semi-churning and souring process that is so often inevitable from the conveyance of the fluid, and there are inventions almost without number for testing milk, made for the use both of dairymen and small consumers. Of these, Messrs. Barham, 25, Hart-street (29), and Messrs. Davis & Co., Kennington Park-road (69), have the most complete and satisfactory exhibits. The Aylesbury Dairy Company (Limited), St. Petersburgh-place, Bayswater (32), send specimens of several of the appliances used in their extremely well-appointed establishments, including the Danish Cream Separator, a new invention for extracting cream by centrifugal force.

The third group, "Engineering, Construction, and Architecture," is rich in exhibits interesting to the sanitarian. Mr. Alfred Woodhouse, A.M.I.C.E., of Bridgewater, shows (429) a patent hollow concrete sanitary building block designed to improve the present system of brick building, and to overcome the objections hitherto raised to the large use of concrete. The patent block is a moulded, hollow concretion, having vertical and horizontal grooves, running at right angles to, and intersecting each other, so that when built one upon another, a complete and perfect system of ventilating cavities runs through the building from the foundation to the roof. Mr. Woodhouse shows how these cavities may be filled either with warm or cold air, and how, by a simple arrangement, they may also be made to carry off the vitiated atmosphere of the living rooms. He claims also, it should be added, other advantages for his invention, in the matter and strength, artistic appearance, and prime cost, as compared either with bricks or simple concrete. Mr. T. Jones, 36, Sloane-street, S.W., sends (258) a couple of house ventilators. The first is placed in the outside wall of the room, and allows of the introduction of fresh air whilst preventing a direct draught. Its particular merit is that it can be so adjusted as to allow of any desired temperature being maintained. The second is a very simple contrivance, and should be as effective as it is simple. It has a syphon-action, and is fitted into the chimney-breast, the up-draught of the flue drawing off the foul air of the room. It is particularly suited for apartments fitted with kitcheners and modern register-stoves.

Some useful sanitary appliances are exhibited (222) by Messrs. Humpherson & Co., 331, King's-road, Chelsea. The first is a syphon-cistern for use at railway-stations and other public places, where mischievous hands are always ready to spoil any appliances for the comfort and health of the public if those appliances are fixed within their reach. It consists of a cistern of ordinary construction, having a well cast in the bottom. In this well is fixed a cylinder with open top, in the centre of which is a pipe connected with the union or fall-pipe. Over this chamber is placed a double copper cylinder, resting on three blocks to allow the water to pass under. A simple form of lever with locking end is used to work the apparatus, and to which the cylinder is connected by means of a chain. The action is as follows:—A small quantity of water remains in the chamber after the cistern has been used, and when the water rises again in the cistern the air becomes bound between the cylinders, which prevent the water from passing over. When the lever is raised, a partial vacuum is formed, the water then is forced into it by atmospheric pressure, causing it to overflow the centre pipe, and then by syphon action, the whole of the contents are discharged. Messrs. Humpherson's second exhibit is an improved pipe-joint, which meets the old difficulty of making a sound and lasting joint to the traps of flush-out and flush-down closets in what seems a very effective fashion. The invention consists of a rebated rubber ring, which is slipped over the junction of the earthenware trap and metal pipe. A light copper band or collar of hollow construction is then passed over it, and tightened by means of a bolt which presses the rubber ring firmly on to the two pipes, making a perfectly secure joint, capable of withstanding any pressure of water or gas likely to be brought to bear upon it. The ring being of the best quality of rubber and within the copper collar, though outside the pipes, such a small surface of it is exposed to the action of the atmosphere or any matter which would be likely to destroy it, that it will last for a number of years, whilst allowing for the expansion and contraction of the two pipes in consequence of variations in temperature. This joint is also adapted for the joint between iron and lead soil-pipes.

Sanitary Appliances, Etc.

GORDON'S EXTRACT.

WE have subjected this well-known medicine to examination with the result of being enabled to testify that it contains no noxious or harmful ingredient of any kind, and that it consists of vegetable matters, combined to form a preparation calculated to be of service in cases of constipation, indigestion, liver complaint, and allied troubles. It may be used with safety, and appears capable of correcting many of the conditions associated with digestive derangements at large. This "Extract," it may be added, has no cumulative effects, and its use does not entail any of the disagreeable and dangerous symptoms which too frequently arise from the employment of drastic purgatives or strong tonic preparations.

This firm also manufactures a "Manna cake" preparation, which forms a safe and agreeable aperient, well adapted for administration to children, for the correction of constipation. The use of manna as an aperient and laxative, has, of course, long been known, and in the form prepared by Messrs. Gordon, it is exceedingly palatable, and forms a medicine which children will readily take, and which possesses the additional advantage of being free from all nauseating properties.

Our Letter : Box

"Conference [maketh] a ready man."—*Bacon.*

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All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," *74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to* "THE PUBLISHER," *at the same address.*

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Correspondents are requested to write on one side of the paper only. The EDITOR *disclaims responsibility for the opinions expressed by Correspondents.*

LETTERS TO THE EDITOR.

ICE-CREAM POISONING.

SIR,—I sympathise very much with the remarks made in HEALTH in regard to the danger to children from sipping ice-cream. I lost two of my own children about three years ago from diphtheria; they were poisoned simultaneously, and both buried at the same time. I thought they had been poisoned by *something they had eaten*, and that ice-cream was possibly the cause or vehicle of the disease, and since then I have repeatedly warned my other children not to take any, in case they should be put where their brothers are.

There is great room for better supervision over all vendors of food in any shape, for contaminated or dirty food and dishes have undoubtedly caused disease and death in many households, and of all carriers of disease-germs milk is probably one of the *best*.—I am, &c.,

PATERFAMILIAS.

QUERIES AND ANSWERS.

[Queries sent on post-cards are not attended to.]

[We find it necessary to repeat the statement, frequently made in these pages, that, under no circumstances, can a reply be given in these columns in the same week as that in which a query is received. All despatch is used in replying to our correspondents, but our publishing arrangements do not admit of answers being given earlier than the succeeding week. The Editor cannot undertake to reply to correspondents *by letter*, except in special cases, the determination of which is subject to Editorial selection.]

[Owing to pressure on our space, several replies have been left over until next week.]

GENERAL.

EGERTON.—Ozone is an "allotropic," or condensed form of oxygen gas. It is tested for by test papers steeped in iodide of

potass and starch. Chlorine also alters the colour of the papers. The test is scarcely a good one.

J. Gardner.—An ordinary "bat's-wing" or Brag's burner consumes three or four cubic feet of gas per hour. In that time it will render impure from 5,000 to 7,000 cubic feet of air.

T. A., Hillhead, C. E. S., A. Chambers, J. Ross.—Declined with thanks.

Atelier.—There are no manuals on the subject save such as are written for technical use. Gray's "Anatomy," or Wilson's "Anatomist's Vade-Mecum," are both excellent works.

A. Shoolbred.—Apply to the Secretary, St. John's Ambulance Society, St. John's Gate, Clerkenwell, London, E.C.

Charles Nicolls.—Not an Otto for your case. The Automatic is good. We think either the Salvo or Imperial Club (ordinary front-steerer), or Sparkbrook Central Gear, would suit you very well. You may depend upon both as excellent machines. Glad to be of further service.

Kate R.—The light Salvo is eminently suitable for ladies' use. Write to Messrs. Starley Bros., of Coventry, for particulars.

J. N.—A mixture of rangoon and sperm oil would suffice.

Antwerp.—The cost is about £6, but a simpler form of the apparatus can be had, we believe, at a cheaper rate.

Olga.—The man is simply a low quack. You may certainly know this from the matter of the pamphet he distributes in the streets.

Tom Gray.—We do not think in such a case you can recover damages. The only ground in which an action would lie would be one of breach of contract. Consult a respectable solicitor.

A. Neve.—The matter is one for the advice of a solicitor. There are somewhat complex questions of law involved.

B. G., X. X. L., First Attempt, Celine, and J. J. D.—Declined with thanks.

Solon.—1. The tricycle is of an excellent make, but as your machine is a second-hand one, you cannot expect the makers to guarantee it against its previous owner's wear and tear. 2. "Arab" springs. 3. A cyclometer. 4. See Health No. 92.

A. Rayne.—No information is yet to hand. We will communicate with you should it arrive.

SANITARY.

A. P. C.—The only closet of the kind named known to us is the "Odourless" of Messrs. Reeves & Hagan, of 16, Parliament-street, Hull. By an arrangement in which the branch soil-pipe is made to enter the outlet and to dip into the water-trap, foul air or sewer-gas is prevented escaping into the house. It is said to give satisfaction.

. Bramley.—1. Doulton's "Waste-Preventer." 2. See Sharp & Co.'s "Sanitation" pamphlet, price 1d. (11, Holborn-circus, E.C.) 3. Sanitas Fluid and Powder.

Thexta.—The latest returns we have seen are from Bordeaux. In 1881 (Nov. 22) a gratuitous vaccination service was instituted there. The following are the results:—Deaths from small-pox, 1876-78, 585; from 1879-1881, 545; from 1882-1884, 110. Unless anti-vaccinators are able to show that Bordeaux owes its decreased small-pox mortality to other causes (a task they may undertake if they so will it), the facts in question once again show that vaccination is a protective against the grave disease.

L. A. O.—Goître is usually believed to be due to drinking water of excessive hardness. We observe, however, that Dr. Thursfield recently suggested that in many cases it could be traced to the practice of carrying weights on the head. We are sceptical as to this cause, since we know of many trades in which weights are regularly carried on the head, and in which goître is unknown. We suspect there are influences of climatic kind at word in inducing the disease.

Thomas Rae.—1. Typhoid, not typhus. 2. Scarlet fever. 3. About 19 per cent. 4. A high mortality.

Keith.—Give Jeye's a trial, in weak solution.

J. Forbes.—1. Nearly 20 per cent. 2. For information of the kind you name see Dr. Gayton's pamphlet on an analysis of 10,403 cases of small-pox. Dr. Gayton shows very clearly the protective influence exerted by vaccination thoroughly performed.

Cibex.—Not a safe procedure by any means.

Tolboothian.—1. Fresh air and cleanliness. 2. Good drainage. 3. Vaccination, aided by the foregoing.

John Kerr.—1. "The Sewage Question," published by Baillière, Tindall, & Co., London, would suit you. 2. Chavasse's "Advice to a Wife" (Churchill).

Andrew B.—A calculation has been made that at twenty-five years of age the male human body should weigh on an average 145·6lb., and the female 120·5lb. In relation to height, it is calculated that a man of 6 ft. should weigh 178lb., and a man of 5 ft. 6 in. 145lb.

E. T. K.—Use Sanitas fluid. Jeye's will also suit you.

B. G. L.—The chief gases in sewage matter are carbonic acid, marsh gas, olefiant gas, sulphuretted hydrogen, and ammoniacal gases.

J. Taylor.—1. Due to defective drain-ventilation. 2. Still an open question. 3. See Health, No. 114.

R. Paul.—Such an invention might be profitably worked. We do not know of any similar contrivance being at present in the market.

R. H. C.—1. You should store the water in a slate cistern or tank, and wash this out frequently. It will keep good for a few days at most in a covered tub. 2. Yes; filter or boil. Use a Maignen's Filtre Rapide or a Spongy Iron Filter for your drinking water from whatever source taken. This will ensure your safety. The spring water should be more palatable.

MEDICAL.

Desperate.—Try the effect of taking twenty drops Cascara Cordial (Parke, Davis, & Co.'s) once or twice daily an hour before food, when you feel the attack coming on. Let your food at these times be very light, and consist mostly of fluids—soups, milk and potash water, &c. When well take a dessert-spoonful of Carnrick's Peptonised Cod Oil and Milk after your food as a general nutrient and stimulating measure. Write again, if not cured.

Played Out.—Try the effect of taking Fellows' Syrup after food instead of before meals, thrice daily.

Dyspeptic.—1. Apply to a wholesale druggist or to a retail chemist, and see if he cannot get you the malt. You would be safer, in our opinion, with that of the Maltine Company, inasmuch as a little of such an Extract goes a long way, when compared with the malt itself. 2. Brown and white bread are digestible relatively to the individual who digests. Many persons disagree with brown bread because of its irritating the mucous membrane of the digestive system. White bread does not necessarily contain more starch, which is, of course, the main constituent of breads of all kinds.

Tommy Tibs.—Give up taking so much beer; substitute oatmeal, or Scott's Midlothian Oat Flour for your tea in the morning, and drink plenty of new milk. After meals (thrice daily) take a dessertspoonful of Scott's Pure Cod-oil Emulsion with Hypophosphites, and to this add fifteen drops of *Fer Bravais*. Take plenty of open-air exercise, and sleep in a well-ventilated room.

Young Mother.—Try a little of Mellin's Infants' Food, which has no starch and is not farinaceous. This, given cautiously, as directed, should suffice to aid the child in food until weaning-time arrives.

Cormon.—1. Rub in Rowland's Macassar Oil morning and night. Look, of course, to the general health as well. Take *Fer Bravais*, fifteen drops, thrice daily, in water after your meals. 2. Yes; it is an admirable astringent. Pond's Extract (a preparation of Hazeline) might also be used.

Needful One.—1. Avoid the cause and the result will cease—that is, if you can't control your mental excitement in society, don't go into company, and look to your general health. The advice given to "A. H. Owen" in last week's Health should be followed by you. 2. No external applications will do good in such a case. You must look to your diet in the first place, avoid all stimulants, salted foods, pastry, and like diets, and take plenty of open-air exercise.

J. W. Smithson.—Read and follow out advice given to "A. H. Owen" in last week's Health. You only require to pay attention to your general health. There is nothing specifically the matter with you. Both your family circle and yourself would benefit greatly from a holiday at the seaside. Go to Redcar, Filey, or Whitby for as long a period as you can spare time. Take the tonic for some weeks, and report progress.

J. G.—May we inquire why you permit such loss to occur, when your condition and opportunities should render such an event unlikely to occur? All we can advise you to do is to use your natural opportunities, and to follow advice (by way of strengthening your general health) given to "A. H. Owen" in the last number of Health.

S. W.—1. Unnatural dryness of the scalp, and sometimes a low state of the general health. 2. Wash the head twice a week with Hamamelis or Iodoform Soap and tepid water; and thereafter apply glycerine of borax to the roots. Use only a soft brush (no small combs or hard brushes should be used). 3. Yes: the book is a good and trustworthy one. You should look to your general health as well.

J. T. J.—Addresses of medical men are only sent on receipt of stamped addressed envelope. See advice given to "A. H. Owen" in last number of Health. This will probably cure you. You are only excited needlessly.

W. Mapplebeck.—No such address was given. See reply to "J. T. J." above, regarding addresses of medical men.

Meloria.—1. You are in error as to the swellings. Such an idea is common in nervous patients, but is due to muscular contraction only. There are no such swellings known, and, if they did exist, they certainly could not be dissipated by pressure as you allege. 2. Any warm inland resort would benefit you—*e.g.*, Buxton, Matlock, Malvern. 3. Try Æsculap, Fredrichshall, or Victoria Water. The latter is an excellent one. 4. The Cascara Cordial (Parke, Davis, & Co.'s) as ordered to "Desperate" in the present number of Health should suit your purpose. 5. You might give "Tonga" a trial. For the cure of neuralgia it has a wide reputation.

R. Johnston.—Probably a slight inflammatory affection excited by an unhealthy secretion—a common occurrence—but nothing to be alarmed at. Avoid constipation, and use simple injections of tepid water (thrice daily), to which a very little permanganate of potash has been added—sufficient to tint the water of a delicate pink colour. Take a teaspoonful of Fellows' Syrup of the Hypophosphites as a general tonic in a wine-glass of water thrice daily an hour before your meals. Such cases occur without any actually diseased origin.

B. Young.—No: wash the hair with Iodoform Soap and tepid water twice weekly. Thereafter rub in a little Rowland's Macassar Oil to the roots of the hair each morning, or continue your present wash for a time and note the result. Hair-troubles such as yours often depend upon a low state of the general health. We therefore advise you to try, in addition to these local measures, the Fellows' Syrup as recommended to "R. Johnston" in the present No. of Health.

Mac.—Yes; the malt should be pure and free from husks.

Tea.—We think your method was probably fairly satisfactory, but no exact data could be obtained without a more exhaustive chemical inquiry. Teas vary greatly in respect of ash and flavour taken as relative items.

John Hodgson.—Look to your digestion in the first instance, and carefully revise your food habits. Try less tea and coffee; avoid constipation; and give the eyes rest, at night especially. If not cured, write again.

Manxman.—You have no need to be alarmed. What you name as a prominent symptom of your supposed ailment is really a sign of health. You are mentally excited, hence all your other troubles. We advise you to read carefully and to follow out advice given to "A. H. Owen" in Health No. 118. By attention thereto, you will get quite well.

J. Barnet.—An absurd and wholly superstitious idea. There is not an atom of truth in the statement.

Soldon.—1. Not at present. 2. Take twenty drops Towle's or Collis Browne's Chlorodyne occasionally in a wineglass of water.

L'Experience.—Look to your digestion; your present troubles clearly depend thereon. Try taking ten drops Cascara Cordial (Parke, Davis, & Co.'s) in water, twice daily, an hour before meals; avoid excessive exertion, and rest after your food. Take Morson's Pepsine with your meals for a time. Above all, don't be nervous or alarmed. You will get quite well. See remarks on "Hay Fever" in "Notes by the Way," and in "Jottings from the Journals," in last week's Health.

A. J. M.—Use the following lotion twice or thrice daily to the parts affected: bicarbonate of soda, one drachm; glycerine, an ounce and a half. Mix. Give also fifteen drops of *Fer Bravais*, in water, thrice daily, an hour before food, and let us hear how this treatment benefits the case. A change of air to a mild inland place would be advisable.

Pirus.—1. No ill effects (provided the person were in sound health) would follow a plunge into cold water followed by brisk friction, when the body was heated. The danger is that of bathing when the body is chilled. 2. You would simply have to bandage the ribs rapidly, and to practice any of the methods (preferably Sylvester's) described in the article on "Drowning," in Health No. 115. It is clear that if you wish to revive the man, you must excite breathing, and if the ribs were broken he would simply have to take his chance. 3. Yes; one of Dr. Martin's bandages would suit (see advertisement in Health).

M. G. L.—We should in such a case advise each of the children to be put on cod-liver oil and iron treatment. There is a constitutional taint which requires such general and continued treatment. Give a dessertspoonful of Carnrick's Peptonised Cod-Oil and Milk (to which add fifteen drops *Fer Bravais*) to each of the children, after food, thrice daily. Residence by the sea, and sea-bathing, would also be advisable.

Cremona.—You should do as you were told. Follow out the advice given in its entirety. Your pain may disappear under the treatment ordered. If not, try a Pulvermacher's Belt or a Harness Medical Battery Belt.

Doubtful.—We would accept the verdict of no one medical man under the circumstances you name. If you send stamped addressed envelope we will send you address of a consulting physician in London whom you can visit. The doctor should have explained to you exactly why you could not pass, and to what extent you were affected. If, as you say, your health is very good, there is all the more reason to obtain either a confirmation or a refutation of the doctor's opinion.

Vandura.—Send us a stamped addressed envelope, and we will give you address of a reliable surgeon, who will advise you. In such a case as yours a good opinion will relieve your mind and put you in the way of a cure.

A Sufferer.—Try, first of all, the effect of a change of air and scene. Take a holiday, and note effect on your ailment. In our opinion, it is due largely, if not solely, to mental strain, and for this rest is the panacea. You might try the effect of taking twenty grains bromide of potass, in water, when your symptoms supervene. Let us hear how this advice answers, and we shall be glad to advise again, if you are not bettered. Of course, you will give up your alcohol, and smoke less—smoking is against you, in any case.

[*Continued on page* 256.

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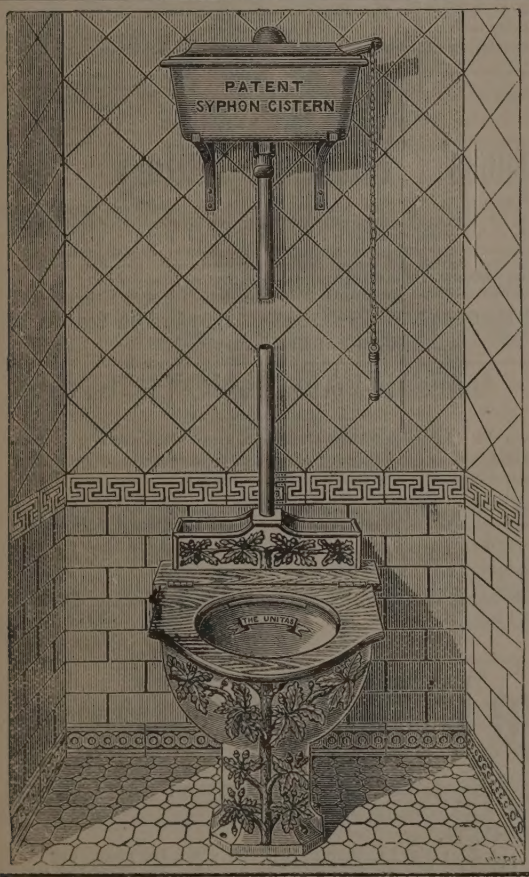

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HOFFNUNG.—Look well to your diet. Give up late suppers, and take less meat. Avoid pastry, salt foods, &c., and eat stale bread, soups, white (boiled) fish, milk puddings, &c. Take Morson's Pepsine with your food daily for a time, and try the effect of a little Lamplough's Pyretic Saline taken each alternate morning on rising. Allow a chlorate of potash lozenge to dissolve in the mouth occasionally. See also to your teeth, which should be brushed morning and night with camphorated chalk and tepid water. If not bettered, write again.

BLOOD.—1. We should say Cannes, Mentone, or Nice would suit you, or Algiers. Some of the Pyrenean resorts would not be too cold for you. There are no "sanatoria," but a letter on this point, addressed to the editor of the *Lancet* or *British Medical Journal*, might bring you replies from medical men practising abroad. Read "Health Resorts," by Dr. Yeo (Chapman & Hall), and "Southern Swiss Health Resorts," by Dr. Marcet (Churchill), for full information. 2. See the first-named book. 3. Yes, if taken strong enough. 4. Yes, as a rule. 5. As a mild aperient and liver tonic. Flatulence is to be corrected by diet alone. Avoid vegetables, and rest after your meals.

DAGONET S. S.—Sponge with cold water each night and morning, and wear a suspensory bandage. If not relieved thereby, you must undergo a slight operation at the hands of a surgeon.

JOE D.—Give up your smoking entirely, until your eyes become well. Avoid all use of the eyes in reading or writing at night, for a time. Bathe them frequently with a little cold tea-infusion, and internally take fifteen drops *Fer Bravais*, in water, thrice daily, an hour before your meals. Your general health is evidently below par, and a holiday at Blackpool or Morecambe, in the fresh air, would probably do you much good. If your symptoms do not disappear with rest, you must consult an eye-surgeon. Look well to the ventilation of your bedroom.

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The Following Testimony is extracted, by permission of the publishers, Messrs. Chatto & Windus, from "*The Hygiene of the Skin*," by **Mr. J. L. MILTON, Senior Surgeon** *to* "*St. John's Hospital for the Skin*," *London.*

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